

Conveyance Sizing, Location and Phasing Draft Issue Paper

3/16/12

Sizing

Total capacity for the N. Delta diversion facility is expected to be made up of one or more discrete 3000 cfs pumping plants which would be built along the bank of the Sacramento River between Freeport and Walnut Grove. Each intake structure is expected to be approximately 1,400 ft. long with over 1,000 ft. of screen face in the river. The question at hand is how many of these structures should be built and what is the appropriate capacity for a N. Delta diversion facility.

Issues:

1. There is concern that these structures will adversely affect critical habitat in an area of the delta that is traversed (twice) by every salmonid and green sturgeon produced in the Sacramento River watershed. Potential adverse impacts include increased predation, impingement on the screens, entrainment of larval fish through the screens, and reduced quality of rearing and migration habitat/cover.
2. There is concern that the extensive in-stream construction and maintenance activities associated with 5 large intake structures will have adverse effects on covered species that utilize this reach of the river during proposed in-stream work windows.
3. There is concern that the removal of a large quantity of water from the Sacramento River will adversely affect the basic elements of critical habitat in the vicinity of the intakes and the overall estuarine ecology in the Delta.
4. There is concern that a smaller capacity in the N. Delta would result in continued reliance on S. Delta facilities for export needs, perpetuating the problems caused by S. Delta pumping.
5. There is concern that a smaller capacity in the north would not allow for the “big gulp” concept to be implemented, thus perpetuating the unnatural hydrograph that currently dominates the system.
6. There is a public perception that a 15,000 cfs facility could (and would) be used to “dry up” the Sacramento River since the total flow of the river is below 15,000 cfs much of the time.
7. Building a smaller/fewer facility would cost less money.

Location

The intakes are proposed to be built along the bank of the Sacramento River between Freeport and Walnut Grove. The question at hand is whether to build some (one or two) of the intakes below Steamboat and Sutter Sloughs.

Issues:

1. The concept favoring intakes below the sloughs is that exposure to the intakes will be detrimental to fish, and if they can avoid exposure to some of the intakes by traveling down the sloughs, they will avoid this impact.
2. There is also a potential benefit to habitat conditions within the sloughs. By placing intakes below the sloughs, more water will be in the river (when the lower intakes are operating) and thus more water will flow into the sloughs.
3. The area below the sloughs is more tidally influenced than the upstream areas so it may be more difficult to operate within the screening criteria in the lower area.
4. Monitoring data indicates that very few delta smelt have been detected in the vicinity of the proposed intake sites below the sloughs, however there is a significant concentration of delta smelt in the Cache Slough area, and should that usage expand in the future in the upstream direction, there is a potential for a greater number of smelt to be exposed to the downstream intakes. Conversely, if the delta smelt should expand their spawning range even farther, into the area above the sloughs, any larvae and juveniles spawned above the sloughs would benefit by the opportunity to avoid the lower intakes by traveling down the sloughs.

Phasing

See phasing documents.